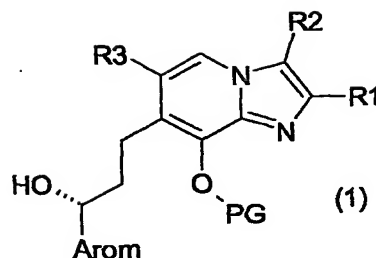


We claim

1. A compound of the formula 1



- R1 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxycarbonyl, 2-4C-alkenyl, 2-4C-alkynyl, fluoro-1-4C-alkyl or hydroxy-1-4C-alkyl,
 R2 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl-1-4C-alkyl, 1-4C-alkoxycarbonyl, hydroxy-1-4C-alkyl, hydroxy-3-4C-alkenyl, hydroxy-3-4C-alkinyl, halogen, 2-4C-alkenyl, 2-4C-alkynyl, fluoro-1-4C-alkyl, cyanomethyl, 1-4C-alkoxy, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino, 1-4C-alkylcarbonyl, 2-4C-alkenylicarbonyl, 2-4C-alkinylcarbonyl or the radical -CO-NR₂₁R₂₂,

where

R₂₁ is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and

R₂₂ is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl,

or where

R₂₁ and R₂₂ together and including the nitrogen atom to which they are attached form a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

- R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxycarbonyl, fluoro-1-4C-alkoxy-1-4C-alkyl, a imidazolyl, tetrazolyl or oxazolyl radical or the radical -CO-NR₃₁R₃₂,

where

R₃₁ is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and

R₃₂ is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl,

or where

R₃₁ and R₃₂ together and including the nitrogen atom to which they are attached form a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

- Arom is a R₄-, R₅-, R₆- and R₇-substituted mono- or bicyclic aromatic radical selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furanyl (furyl), benzofuranyl (benzofuryl), thiophenyl (thienyl), benzothiophenyl (benzothienyl), thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, quinolinyl and isoquinolinyl,

where

R₄ is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkylcarbonyl, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, aryl, aryl-1-4C-alkyl, aryloxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, mono- or di-1-4C-alkylamino, 1-4C-

alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl,

R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen or trifluoromethyl,

R6 is hydrogen, 1-4C-alkyl or halogen and

R7 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

2. A compound of the formula 1 as claimed in claim 1, in which

R1 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkoxy-1-4C-alkyl or 1-4C-alkoxycarbonyl

R2 is hydrogen, 1-4C-alkyl, halogen, 2-4C-alkenyl, 2-4C-alkynyl, hydroxy-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkoxycarbonyl or the radical -CO-NR21R22,

where

R21 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen, 1-4C-alkyl or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxycarbonyl or the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and

R32 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4-, R5-, R6- and R7- substituted mono- or bicyclic aromatic radical selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furanyl (furyl), benzofuranyl (benzofuryl), thiophenyl (thienyl), benzothiophenyl (benzothieryl), thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, quinolinyl and isoquinolinyl,

where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-

alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, aryl, aryl-1-4C-alkyl,

aryloxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl, R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen or trifluoromethyl, R6 is hydrogen, 1-4C-alkyl or halogen and R7 is hydrogen, 1-4C-alkyl or halogen, PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl, R11 is 1-4C-alkyl or aryl,

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano, and its salts.

3. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl or 3-7C-cycloalkyl

R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl, or the radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, or the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl and

R32 is hydrogen, 1-7C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4-, R5-, R6- and R7- substituted mono- or bicyclic aromatic radical selected from the group consisting of phenyl, naphthyl, pyrrolyl, pyrazolyl, imidazolyl, 1,2,3-triazolyl, indolyl, benzimidazolyl, furanyl (furyl), benzofuranyl (benzofuryl), thiophenyl (thienyl), benzothiophenyl (benzothieryl), thiazolyl, isoxazolyl, pyridinyl, pyrimidinyl, quinolinyl and isoquinolinyl,

where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy, 2-4C-alkenyloxy, 1-4C-alkoxycarbonyl, carboxy-1-4C-alkyl, 1-4C-alkoxycarbonyl-1-4C-alkyl, halogen, aryl, aryl-1-4C-alkyl,

aryloxy, aryl-1-4C-alkoxy, trifluoromethyl, nitro, mono- or di-1-4C-alkylamino, 1-4C-alkylcarbonylamino, 1-4C-alkoxycarbonylamino, 1-4C-alkoxy-1-4C-alkoxycarbonylamino or sulfonyl, R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxycarbonyl, halogen or trifluoromethyl, R6 is hydrogen, 1-4C-alkyl or halogen and R7 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11 wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

4. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl,

R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl, or the radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R3 is hydroxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, or the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4- and R5- substituted phenyl, pyrrolyl, furanyl (furyl), thiophenyl (thienyl) or pyridinyl,

where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy or halogen,

R5 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11

wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano, and its salts.

5. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl,

R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl, or the radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R3 is the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is a R4- and R5- substituted phenyl,

where

R4 is hydrogen, 1-4C-alkyl, hydroxy-1-4C-alkyl, 1-4C-alkoxy or halogen,

R5 is hydrogen, 1-4C-alkyl or halogen,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11

wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano, and its salts.

6. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl,

R2 is 1-4C-alkyl, halogen, hydroxy-1-4C-alkyl, 2-4C-alkenyl, 2-4C-alkynyl, 3-7C-cycloalkyl or the radical -CO-NR21R22,

where

R21 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R22 is hydrogen or 1-4C-alkoxy-1-4C-alkyl,

R3 is the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino, piperidino, morpholino, aziridino or azetidino radical,

Arom is phenyl,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR8R9R10 radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR8R9R10 or a radical SO₂-R11

wherein

R8, R9, R10 are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R11 is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts.

7. A compound of the formula 1 as claimed in claim 1, in which

R1 is 1-4C-alkyl,

R2 is 1-4C-alkyl, halogen or hydroxy-1-4C-alkyl,

R3 is the radical -CO-NR31R32,

where

R31 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

R32 is hydrogen, 1-7C-alkyl or 3-7C-cycloalkyl,

or where

R31 and R32 together and including the nitrogen atom to which they are attached are a pyrrolidino radical,

Arom is phenyl,

PG is 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, aryl-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkoxy-1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl substituted by a SiR₈R₉R₁₀ radical, tetrahydropyran, tetrahydrofuran, aryl-1-4C-alkyl, 3-7C-cycloalkyl, 1-4C-alkylcarbonyl, aryl-carbonyl, 1-4C-alkoxycarbonyl, aryl-1-4C-alkylcarbonyl, aryl-1-4C-alkoxycarbonyl, a radical SiR₈R₉R₁₀ or a radical SO₂-R₁₁

wherein

R₈, R₉, R₁₀ are independently from each other 1-7C-alkyl, aryl or aryl-1-4C-alkyl,

R₁₁ is 1-4C-alkyl or aryl

where

aryl is phenyl or substituted phenyl having one, two or three identical or different substituents from the group consisting of 1-4C-alkyl, 1-4C-alkoxy, carboxyl, 1-4C-alkoxycarbonyl, halogen, trifluoromethyl, nitro, trifluoromethoxy and cyano,

and its salts

8. A compound of the formula 1 as claimed in claim 1, in which

R₁ is 1-4C-alkyl,

R₂ is 1-4C-alkyl,

R₃ is the radical -CO-NR₃₁R₃₂,

where

R₃₁ is 1-4C-alkyl,

R₃₂ is 1-4C-alkyl,

Arom is phenyl,

PG is aryl-1-4C-alkyl or a radical SiR₈R₉R₁₀

wherein

R₈ is 1-7C-alkyl

R₉ is 1-7C-alkyl

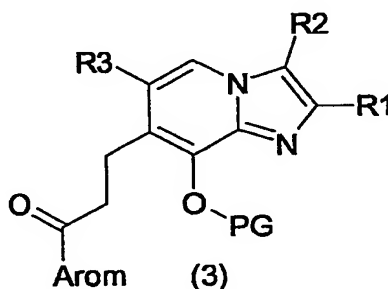
R₁₀ is 1-7C-alkyl

where

aryl is phenyl

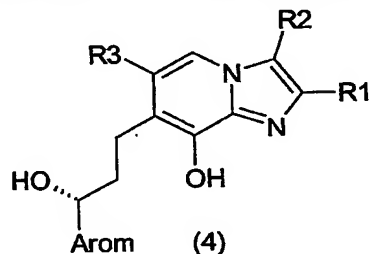
and its salts.

9. A process for the preparation of compounds of the formula 1, in which R₁, R₂, R₃, Arom and PG have the meanings as indicated in claim 1, which comprises an asymmetric reduction of compounds of the formula 3,



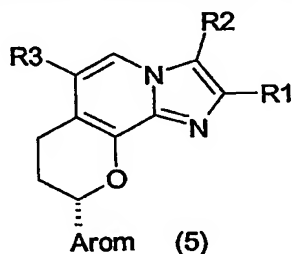
in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1.

10. A process as claimed in claim 7, which comprises an asymmetric catalytic hydrogenation of compounds of the formula 3, in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1.
11. The use of compounds of the formula 1, in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1, for the preparation of compounds of the formula 4 and their salts,



in which R1, R2, R3 and Arom have the meanings as indicated in claim 1.

12. The use of compounds of the formula 1, in which R1, R2, R3, Arom and PG have the meanings as indicated in claim 1, for the preparation of compounds of the formula 5 and their salts,



in which R1, R2, R3 and Arom have the meanings as indicated in claim 1.